

USSR

GRINBERG, B. G., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 7, 1973, pp 133-135

the electron-topography, and the characteristic X-ray radiation with concentration redistribution curves of iron, nickel, and chromium, the character and regularities of the formation of diffusion zones in the process of production and of heat treatment of the bimetal were exposed. One figure, three bibliographic references.

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USSR

6  
KORAB, A. G., GILBERT, D. L., SHAMUNO, V. P., FINE, P. A., and LEE, J. W.  
I. A., Cherepovets Metallurgical Plant; Volga State Pedagogical Institute

"Anticorrosion Protection of Steel Sheets"

Moscow, Metallurg, No 9, Sep 78, pp 33-34

Abstract: A study was made of the effectiveness of the anticorrosion protection of sheet steel using inhibitor oils. The study was prompted by the number of complaints lodged by consumers and plants. The latter have been supplied with cold- and hot-rolled steel sheets with corrosion defects. The project called for the development of an anticorrosion protection for hot-rolled, cold-rolled, and galvanized steel using inhibitor oils. Industrial oil-20 was used with NC-203 and NC-204 and lubricants L-20/15 in concentrations of 10, 20, and 30%. Samples of 08 kp steel treated with oil containing additive of 10, 20, and 30% inhibitors in concentrations of 10-30% passed 15 days of open-air testing. The treated metals were also subjected to accelerated tests which consisted of dipping in water for 8 hours at 40°C followed by holding in air for 16 hours. The cycle was repeated 5 times. Use was made of a point system to assess anticorrosion protection. The outcome of the study was a standardization of anticorrosion lubricants comprising oil-20 with additives of NC-203 and 204.

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USSR

MONID, A. G., et al, Metallurg, No 9, Sep 70, pp 33-34

inhibitors, construction of mixer equipment, and development of a coating technology.

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USSR

UDC 616.89

MERLA, D. F., and GRINBERG, D. M., Chair of Psychiatry, Kishinev Medical Institute, and Republic Mental Hospital No 1

"Comparative Clinical and Electroencephalographic Examination of Patients with Mental Disorders Caused by Toxoplasmosis"

Kishinev, Zdravookhraneniye, No 4, 1971, pp 25-27

Abstract: EEG examination of 51 patients 11 to 55 years of age suffering from epilepsy and other mental disorders, congenital or acquired, due to toxoplasmosis revealed severe disturbances of bioelectrical activity consisting of diffuse and dysrhythmic shifts in the brain action potentials with disorganization of the rhythms. The alpha rhythm was either absent or irregular. Disorganization of the rhythms included hypersynchronous slow potentials (especially in the epileptics) in the form of irregular theta and delta waves. Against a background of diffuse impairment of bioelectrical activity, fairly pronounced bilaterally symmetrical electrical discharges were noted in leads from the central-frontal and parietotemporal regions of the cortex, an indication of change in the mesodiencephalic structures. Regular or paroxysmal waves, generally slow, in the temporal, parietal, and frontal

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USSR

MERLA, D. F., and GRINBERG, D. M., Zdravookhraneniye, No 4, 1971, pp 25-27

leads were common in the epileptic syndrome. The predominance of slow waves in all the patients suggests the presence of a diffuse, degenerative process in the brain associated with cerebrospinal fluid and vascular disturbances.

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Acc. Nr.: AP0029101

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiiatrii, 1970,  
Vol 70, Nr 1, pp 87-93

A CLINICO-ELECTROENCEPHALOGRAPHIC CORRELATION  
IN THE AMENTIVE SYNDROME

A. G. Naku, V. M. Mikhlin, D. M. Grinberg

The authors report of a study on the bioelectrical brain activity in 65 patients with amnesia. Among the studied patients 25 of them were repeatedly observed from 4 months to 4 years after clinical recovery. It was possible to establish and describe the dependency between the type of bioelectrical activity and the EEG reactivity on the one hand and the severity of amnesia, the character of the prevalent syndrome, etiological factors and the supplementary clinical features on the other. The authors discuss the possible pathogenetical mechanisms of amnesia and the essence of predisposition to amentive changed consciousness.

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USSR

UDC: 519.217

GRINBERG, E. Ya.

"Analysis of Markov Processes. Computational Algorithms. 3-5"

Tr. VNII med. priborostr. (Works of the All-Union Scientific Research Institute of Medical Instrument Building), 1971, vyp. 1, pp 45-52 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V92)

Translation: For part I, see abstract 11V91. Methods are outlined for calculating the average value and variance of absorption time. The procedures are modifications of the Gaussian algorithm for solving a system of algebraic equations for purposes of improving the precision of the calculations, and numerical methods of enlarging the states of a Markov process. Author's abstract.

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USSR

UDC: 519.217

GRINBERG, E. Ya.

"Analysis of Markov Processes. Classification of States"

Tr. VNII Med. priborostr. (Works of the All-Union Scientific Research Institute of Medical Instrument Building), 1971, vyp. 1, pp 37-44 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V91)

Translation: An algorithm for classifying states of a Markov process is developed on the basis of graph theory. Author's abstract.

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GRINBERG, G.K.

EVALUATION OF THE BOUNDARY EFFECT IN A MULTICHANNEL MAGNETOHYDRODYNAMIC DEVICE  
[Abstract of a Paper by G. K. Grinberg, Yu. K. Izrael, Given at the Magnetohydrodynamic Conference, pp 205-207]

In studying magnetohydrodynamic processes in the range of average  $B_0$ , a multichannel conduction magnetohydrodynamic device was created [1] (Figure 1). As a result of movement of the liquid-metal in the hydraulic channels, in the presence of an external magnetic field  $B_0$ , the currents ( $j_1$ ) occur which create a secondary magnetic field  $B_1 = \mu_0 j_1$  in the adjacent element of the device. As a result of interaction of the latter with the velocity  $v$ , the  $\text{emf } E$  occurs in the direction of the applied magnetic field.

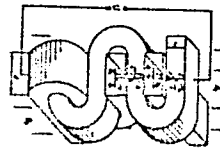


Figure 1.

The operating efficiency of the device is estimated by the ratio of the potential difference of the device without the boundary effect ( $U/U_0$ ). It depends to a great extent on  $B_1$ , that is, on  $B_0$ . With an increase in  $B_0$ , the ratio  $U/U_0$  decreases [1]. The existence of the boundary effect worsens the operating efficiency of the device for any  $B_0$ .

JPES 60634  
27 November 1975

USSR

UDC: 621.372.061

GRINBERG, I. P., TARANOV, S. G.

"Compensation of the Input Capacitance of a Quadripole"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 90-92 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A110)

Translation: The authors consider compensation of the shunting effect of the input capacitance and the capacitance of the connecting cable, which reduces the input impedance of a quadripole with an increase in the frequency of the input signal. A compensation circuit is proposed which utilizes an auxiliary RC network connected in parallel with the quadripole input. The parameters of the network are selected in such a way that the current produced by the input voltage is determined by the capacitance of the network. The stability of the system is investigated. Two illustrations, bibliography of two titles. N. S.

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USSR

UDC 547.772'539.4

KARELE, B. YA., KALININ', S. V., GRINBERG, I. P., and MEYLAND, O. YA., Riga Polytechnical Institute

"Iodonium Derivatives of Heterocyclic Compounds. I. Phenyliodonium Salts and Betaines of Pyrazoles"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 2, Feb 73, pp 245-248

Abstract: A method was developed for the synthesis of phenyliodonium derivatives of pyrazoles. Reaction of pyrazole, 3,5-diphenylpyrazoles and 3,5-dimethylpyrazoles with phenyliodosoacetate in presence of p-toluene-sulfonic acid yields the tosylates of 4-phenyliodoniopyrazoles which upon treatment with alkali convert to 4-phenyliodoniopyrazole betaines. By means of exchange reactions the tosylates were converted to respective chlorides, bromides and iodides. Betaines reacted with hydrogen fluoride and hydrogen borofluoride to yield 4-phenyliodoniopyrazole fluorides and borofluorides. On the basis of electron absorption spectra the ionization constants of a series of phenyliodonium derivatives of pyrazoles have been calculated. 4-Phenyliodonium group increases the acidity of pyrazoles by 4.5-5 orders of magnitude.

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USSR

UDC 621.375.4

GRINBERG, I. P., ZAGORSKIY, YA. T., LEVCHENKO, D. G.

"Methods of Analyzing the Instability of Transistor Amplifiers (Survey)"

Tr. Sib. n.-i in-t metrol. (Works of Siberian Scientific Research Institute of Metrology), 1970, vyp. 5, pp 62-71 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D109)

Translation: A critical analysis of the existing methods of analysis are presented. Preference is given to the Nosov and Khazanov method (Radio-tekhnika, 1958, No 2) based on investigation of the operation of transistors in an amplifier using r-parameters of the T-type equivalent circuit and the dependence of the parameters on temperature, the p-n junction material and the power supply conditions. The advantages of the method of structural schematics are also demonstrated. There are three illustrations and a 27-entry bibliography

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USSR

UDC 546.45:543.27:543.544.25

DRUGOV, Yu. S., MURAV'YEVA, G. V., GRINBERG, K. M., NESTERENKO, G. N.,  
SOKOLOV, D. N.

"Gas Chromatographic Method of Determination of Beryllium in Air"

Moscow, Zavodskaya Laboratoriya, No 11, 1972, pp 1305-1306.

Abstract: The authors have developed a gas chromatographic method for determination of microquantities of beryllium in the air at industrial enterprises, based on the formation of a volatile beryllium chelate with trifluoroacetyl acetone. A linear dependence of the signal of the detector on beryllium content is observed in the range of concentrations of 0.4 to  $2 \cdot 10^{-5}$  mg/ml Be. The sensitivity of the determination is  $1 \cdot 10^{-5}$  mg/ml Be.

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Genetics

USSR

UDC 615-015

GRINBERG, K. N.

"Pharmacogenetics"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D. I. Mendeleeva, No 6, 1970, pp 675-680

Abstract: Genetic anomalies in most cases determine the properties of enzymes and these, in turn, determine the body's response to various substances. The discussion, with many accompanying examples, is divided into the following sections: (1) genetically determined sensitivity to drugs (isoniazid, vitamin D, phenothiazines); (2) genetically determined sensitivity to the side effects and complications of drugs (succinylcholine, primaquine); (3) hereditary diseases that alter the sensitivity to drugs (methemoglobinemia, hyperbilirubinemia, porphyria hepatica, uric acid diathesis, phenylketonuria); (4) hereditary sensitivity to industrial chemicals (carbon disulfide, isocyanates, glucose-6-phosphate); (5) genetically determined discrimination sensitivity (ability to taste phenylthiourea, ability to detect the odor of prussic acid).

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--GENETIC ACTIVITY OF 1,4,BIS,DIAZOACETYL,BUTANE. III. CYTOGENETIC  
ACTION OF 1,4,BIS,DIAZOACETYL,BUTANE ON PLANTS -U-  
AUTHOR-(02)-FILIPPOVA, L.M., GRINBERG, K.N.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(3), 38-41

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PLANT GENETICS, MUTAGEN, AZO COMPOUND, BUTANE, CHROMOSOME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/1980

STEP NO--UR/0473/70/006/003/0038/0041

CIRC ACCESSION NO--AP0137159

INDEXED

2/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALLIUM FISTOLOSUM AND CREPIS  
CAPILLARIS SEEDS DO NOT SHOW MORE CHROMOSOMAL ABERRATIONS THAN CONTROLS  
AFTER BEING SOAKED 4 HR IN A 1:10 NEGATIVE PRIME4 SOLN. OF THE TITLE  
MUTAGEN. FACILITY: INST. CHEM. PHYS., MOSCOW, USSR.

UNCLASSIFIED



1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--GENETIC ACTIVITY OF 1,4 BIS, DIAZOACETYL, BUTANE. II. EFFECT OF 1,4  
BIS, DIAZOACETYL, BUTANE ON HUMAN CHROMOSOMES IN VITRO -U-  
AUTHOR-(02)-GRINBERG, K.N., FILIPPOVA, L.M.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(2), 148-51

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GENETICS, CHROMOSOME, EMBRYOLOGY, DRUG EFFECT, MITOSIS, DNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1998/0650

STEP NO--UR/0473/70/006/002/0148/0151

CIRC ACCESSION NO--AP0121317

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121317

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HUMAN EMBRYO FIBROBLAST CELLS WERE TREATED WITH THE TITLE DRUG (0.1 MG-ML) FOR 4 OR 14 HR. AN INCREASED ABERRATION FREQUENCY WAS OBSERVED WHEN THE CELLS WERE TREATED FOR 4 HR. THE MOST SENSITIVE STAGE OF THE MITOTIC CYCLE WAS THAT OF DNA SYNTHESIS.

ALL ABERRATIONS WERE OF THE CHROMATID TYPE.  
HUMAN MORPHOL., MOSCOW, USSR.

FACILITY: INST.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--GENETIC ACTIVITY OF 1,4,BIS,DIAZOACETYL,BUTANE. I. ABILITY OF  
1,4,BIS,DIAZOACETYL,BUTANE TO INDUCE GENE MUTATIONS AND CHROMOSOME  
AUTHOR--(02)-FILIPPOVA, L.M., GRINBERG, K.N.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(1), 92-5

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DROSOPHILA, MUTAGEN, BUTANE, ORGANIC NITROGEN COMPOUND,  
CHROMOSOME, GENETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1148

STEP NO--UR/0473/70/006/001/0092/0095

CIRC ACCESSION NO--AP0130176

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130176

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABILITY OF

1,4,BIS(DIAZOACETYL)BUTANE TO INDUCE GENERAL GENE MUTATIONS WITHOUT  
STRUCTURAL DAMAGE OF CHROMOSOMES WAS TESTED IN D. MELANOGASTER. NO

DETACHMENT OF ATTACHED X CHROMOSOMES IN OOCYTES WAS INDUCED BY THE  
HIGHLY EFFECTIVE MUTAGEN.

FACILITY: INST. CHEM. PHYS., MOSCOW,

USSR.

UNCLASSIFIED

AA0052665

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,  
Derwent, 1-7C

241296 PILE-DRIVING SUSPENSION ARRANGEMENT  
differs from that in Pat. 233536 by  
hinging carriage 7 to the driving jib 8, at which  
and there is a stop made in the form of an  
electric jack electrically connected to the switch  
terminals placed in a hinged movable carriage,  
allowing free motion of the driving jib 8 in the  
vertical plane. This improves the construction.  
20.4.67. as 1164347/29-14, Add to 233536, LOSHAK,  
I.A. et al. "Glavsevkavstroya" Office (15.8.69)  
Bul. 13/1.4.69. Class 84c, Int. Cl. E 02d.

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5/13

Loshak, I. A.; Zal'tsman, T. M.; Grinberg, L. I.; Mokryakov, V. M.;  
Mazyar, Ye. Z.; Beyzym, Ya. T.

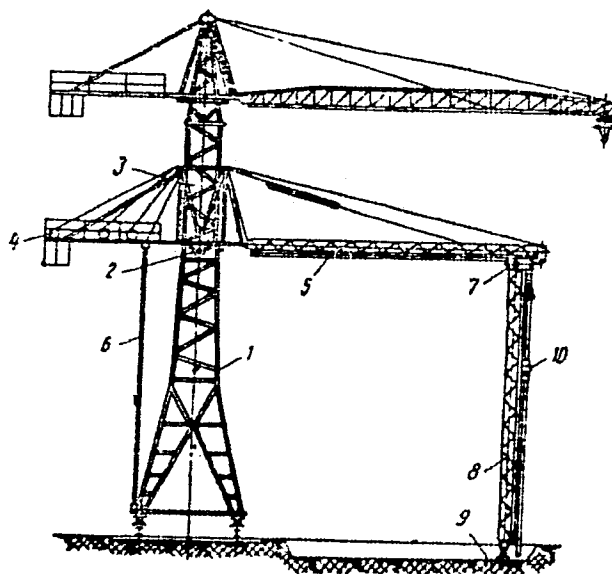
Konstruktorskoye Tekhnologicheskoye Byuro Spetsializirovannogo  
Upravleniya Mekhanizatsii Stroitel'stva Glavsevkavstroya

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19821415

AA0052665



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19821416

GRINBERG, L. N.

Space Physiology

ORIGINAL ARTICLES

SPACE BIOLOGY

SO: JPRS 54396  
03 NOV 1971

UDC 612.2-06:612.766.2

EFFECT OF HYPODYNAMIA ON GAS EXCHANGE IN ANIMALS (An-space physiology)  
[Article by Ye. A. Kovalenko, V. I. Pankov, F. S. Malyan, Yu. S. Galushko, N. V. Gordeycheva, Yu. I. Kondratyev, N. V. Lyubimov, A. A. Ponomarev, A. A. Grinberg and N. A. Savchenko, Moscow, Kosmicheskaya Biologiya i Meditsina, Vol 5, No 4, pp 3-8, 1971, submitted for publication 8 December 1969]  
631.512.1  
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Abstract: This paper reports on investigations of the pathogenesis of prolonged hypokinesia (up to 100 days), including total gas exchange, gas homeostasis in tissues, rate of in vivo oxygen consumption in muscles (polarographic method), tissue respiration and oxidative phosphorylation in the skeletal muscles, myocardium, brain and liver, as well as oxidative processes in liver mitochondria. The weight of the animals and individual skeletal muscles of the limbs was also examined. On the 120th day of hypokinesia functional (static and dynamic) tests were performed to determine work capacity and acute hypoxia tolerance of animals. During an exposure to 60-day hypokinesia the dogs showed a decrease in gas exchange which was most clearly pronounced by the 30th day. By the end of the experiment gas exchange increased and immediately returned to a normal level after the experiment. Rats exposed to a longer hypokinesia exhibited no noticeable changes in total gas exchange at early stages of the experiment and a distinct acceleration of gas exchange and regional oxygen consumption in muscles by the 90th-100th day. Changes in the oxidative processes in tissues were found during the 10th-60th day of hypokinesia. The rats also revealed substantial weight losses due to a decrease

USSR

UDC 669.15'292'293;295-194.2

SHCHERBAKOVA, V. S., SARRAK, V. I., LIFSHITS, L. S., and GRINBERG, N. A.,  
All-Union Scientific Research Institute for Construction of Trunk Pipelines  
and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P.  
Bardin

"Properties and Nature of Hardening Low-Alloy Steel Containing Small Quantities  
of Niobium, Vanadium, and Titanium"

Moscow, Stal', No 6, Jun 71, pp 538-542

Abstract: Kinetics of niobium carbonitride separation in low-alloy ferritic steel containing 0.03% Nb, the role of the microstructure and dispersion hardening in developing properties, and the effect of rolling and normalization processes on properties of steel micro-alloyed only by niobium were investigated. It was found that the low-alloy steel containing 0.2% C, 1.15-1.4% Mn, and approximately 0.05% Nb begins to harden by aging in 2-4 hrs at 500°C as a result of separation of carbides, nitrides, and carbonitrides of niobium (phase NbC). The separation of this phase in austenite has little effect in changing the properties of steel with niobium, but a separation in ferrite promotes hardening. The developing embrittlement can be avoided by 1/2

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USSR

SHCHERBAKOVA, V. S., et al., Stal', No 6, Jun 71, pp 538-542

rolling and normalization control. By the most effective alloying (Nb + V or Nb + V + Ti), a high complex of strength and plasticity properties can be obtained. The cold brittleness threshold of steel in the hot-rolled condition can be lowered by changing the rolling method. Four illustrations, four tables, nineteen bibliographic references.

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1/2 038

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--ALLOYS FOR HARD FACING PARTS OF EARTH MOVING MACHINES -U-

AUTHOR--(03)-BELIKOVA, N.A., GRINBERG, N.A., PRUZHANSKIY, L.YU.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (3), 37-38

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--HARD ALLOY, IRON ALLOY, CHROMIUM NICKEL ALLOY, NICKEL CHROMIUM  
ALLOY, WEAR RESISTANCE, EARTH HANDLING EQUIPMENT, BULLDOZER, BORON  
INTENSIFIED STEEL, ALLOY STEEL, IMPACT STRENGTH, NICKEL CONTAINING  
ALLOY, WELD FACING, METAL SURFACING, WEAR RESISTANT METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0918

STEP NO--UR/0129/70/000/003/0037/0038

CIRC ACCESSION NO--AP0133007

UNCLASSIFIED

2/2 038

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133007

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE CHEMICAL COMPOSITION AND MICROSTRUCTURE OF A NUMBER OF FE-CR-NI ALLOYS USED FOR THE HARD FACING OF EARTH MOVING MACHINERY ON THEIR WEAR RESISTANCE AND IMPACT STRENGTH BETWEEN MINUS 60 AND MINUS 270DEGREESC WAS STUDIED. IN GENERAL INCREASING THE NI CONTENT REDUCED THE COLD SHORTNESS THRESHOLD; HOWEVER, MORE THAN 5PERCENT OF NI ALSO REDUCED THE WEAR RESISTANCE OWING TO THE CORRESPONDING RISE IN AUSTENIT CONTENT. THE ADDITION OF B SHARPLY REDUCED THE IMPACT STRENGTH, INDEPENDENT OF THE STRUCTURAL CHARACTERISTICS.

UNCLASSIFIED

Titanium

USSR

UDC 669.295:620.163.4

GRINBERG, N. M., OSTAPENKO, I. L., and LYUBARSKIY, I. M., Physicotechnical Institute of Low Temperatures of the Academy of Sciences UkrSSR

"Topography of Fatigue Failure of a Two-Phase Titanium Alloy"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1972, pp 45-48

Abstract: An experimental investigation was made of some characteristics of fatigue failure of a titanium alloy with a two-phase  $\alpha + \beta$  structure, alloyed with Al, Mo, V, Cr, and Fe, at temperatures from -140 to +150°C. Unlike the deformation of the single-phase alloy, the plastic deformation of the two-phase  $\alpha + \beta$  -titanium alloy by cyclic loading takes place as the result of slipping without twinning. The propagation of macrocracks by cyclic twisting proceeds in three stages: initial stratification on gliding planes by the action of normal stresses, intermediate zone stratification together with significant plastic deformation by the action of shearing stresses, and the final stage of quasi-brittle failure from normal stresses. With increasing temperature from -140 to +150°C, the intermediate zone decreases and the area of the zone of final failure increases proportionally. The character of micro-failure in the zones does not change. The initial stages of the

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USSR

GRINBERG, N. M., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov,  
No 8, 1972, pp 45-48

process of fatigue failure before developing microcracks result in increased  
durability at low temperatures. Three figures, eight bibliographic references.

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USSR

UDC 539.385

GRINEBERG, N. M., and OSTAPENKO, I. L., Physicotechnical Institute of Low  
Temperatures, Academy of Sciences UkrSSR, Khar'kov

"Fatigue Failure of a Two-Phase Titanium Alloy in Vacuum"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 1, 1973, pp 25-28

Abstract: A study was made by electron-microscopy and electron fractional photography of the characteristics of failure at cyclic torsion in air and in vacuum  $\left[ (1.5-4) \cdot 10^{-7} \text{ mm Hg} \right]$  of a two-phase high-strength titanium alloy. The results of testing rolled and unrolled specimens are discussed by reference to photographs of their surfaces with slip lines after cyclic loading and microfractional photograms of their failure hearths. The plastic deformation of complex-alloyed titanium alloy with  $\alpha + \beta$  structure is found to be accomplished only by means of sliding. Two figures, one table, nine bibliographic references.

USSR

UDC 539.385

GRINBERG, N. M., BOYCHUK, V. M., TSURIKOV, N. A., SOLOGUB, P. S., GLADKIN, B. V., POPIRNYI, V. Ye., Khar'kov, Leningrad.

"Durability of Titanium Alloy in a Vacuum at Low and High Temperatures"

Kiev, Problemy Prochnosti, No. 4, Apr 71, p. 36-40.

Abstract: Results are presented from a study of the durability of titanium alloy under cyclical twisting in the range from 133 to 452°K under a vacuum of  $10^{-7}$  mmHg. A significant (approximately 7 times) increase in durability of unrolled specimens is discovered for loading under a vacuum in comparison with the same loading in air. When the surface is hardened by rolling, the vacuum has almost no influence on the durability of the alloy under cyclical deformation. An increase is noted in the durability of the alloy at low temperatures, as well as in increase in static strength under these conditions. The durability as a function of temperature above room temperature follows a complex curve. Certain specifics of the fatigue rupture are studied by electron microscopy and electron fractography. An attempt is made to explain the phenomenon observed.

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USSR

UDC 582.232-119:576.8

KVASNIKOV, Ye. I., STOGNIY, I. P., TRAVCHUK, T. P., SHCHELOKOVA, I. F., KLYUSHNIKOVA, T. M., and GRINBERG, T. A., Institute of Microbiology and Virology, Academy of Sciences Ukrainian SSR, Kiev

"Blue-Green Algae From the Kremenchug Reservoir as a Raw Material for Growing Microorganisms"

Kiev, Gidrobiologicheskii Zhurnal, Vol 7, No 6; Nov/Dec 71, pp 80-83

Abstract: Blue-green algae of the Kremenchug reservoir contain a considerable amount of polysaccharides both easy and difficult to hydrolyze, including easily accessible ones for assimilating glucose, mannose, galactose, and xylose. They are also rich in protein substances which can, upon hydrolysis, be converted into amino acids and used in the process of growing microorganisms. Algae contain a sufficient amount of ash elements, but they are poor in phosphorus. Blue-green algae contain a large selection of B-group vitamins. These algae contain all the components necessary for the development of heterotrophic microorganisms used in the brewing and food industry. The necessary number of components can be balanced.

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3

USSR

UDC 582.282.195.232-115.1+575.23

KVASNIKOV, Ye. I., PODDUBNYI, F. N., SVISHCHUK, A. A., GRINEBERG, T. A., BITYUKOVA, L. B., DUBKOVA, O. M., and GRINEBERG, B. G., Institute of Microbiology and Virology, Academy of Sciences Ukrainian SSR, and Institute of Organic Chemistry, Academy of Sciences Ukrainian USSR

"Adenine-Dependent Mutants of the Yeast *Rhodotorula gracilis* and Their Fat-Forming Ability"

Kiev, Tsitologiya i Genetika, No 2, 1971, pp 112-115

Abstract: The ability to synthesize lipids was studied in adenine-deficient mutants of *Rhodotorula gracilis* induced by ultraviolet radiation. The survival rate of cells decreased with increasing dose of UV rays: from 52.4% at a dose of 500 erg/mm<sup>2</sup> to 0.0028±0.0022% at a dose of 10,000 erg/mm<sup>2</sup>. UV irradiation induced six auxotrophic mutants which required the presence of adenine hydrochloride (from 10 to 100 µg/ml) in the medium for good growth. The optimum dose for inducing adenine-dependent mutants was 4,000 erg/mm<sup>2</sup> which gave rise to one mutation per 5,755 cells (0.055±0.045%). The adenine-dependent mutants were found to have a low capacity for synthesizing lipids. While the control strain formed 52.4% of the lipids, the adenine-dependent mutants formed only 10.4 to 24.4%.

1/1

- 15 -

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--AUTOMATED THERMAL CALCULATIONS FOR ABSORPTION REFRIGERATORS -U-

AUTHOR--GRINBERG, YA.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(2), 157

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--REFRIGERATING SYSTEM, WATER, AMMONIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/0176

STEP NO--UR/0064/70/046/002/0157/0157

CIRC ACCESSION NO--AP0123947

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123947

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR PROGRAMMING DIGITAL  
COMPUTER CALCNS. OF THE OPTIMUM CONDITIONS OF OPERATION OF ABSORPTION  
TYPE REFRIGERATION SYSTEMS IS DESCRIBED, AND OPERATION WITH THE H SUB2  
O,NH SUB3 SYSTEM IS TREATED AS AN EXPTL. EXAMPLE; THE CALCNS. ARE BASED  
ON THE THERMODYNAMIC PROPERTIES OF THE BINARY MIXTS. AND MAY BE EXTENDED  
TO UNKNOWN SYSTEMS, REQUIRING A MIN. NO. OF EXPTS.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--THERMODYNAMICS OF BS SUB2 VAPORIZATION -U-

AUTHOR-(03)-GRINBERG, YA.KH., ZHUKOV, E.G., KORVAZHIN, V.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 589-92

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, VAPORIZATION, BORON COMPOUND, SULFIDE,  
ABSORPTION SPECTRUM, MONTE CARLO METHOD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1995/1133

STEP NO--UR/0020/70/190/003/0589/0592

CIRC ACCESSION NO--AT0116598

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0116598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VAPORIZATION OF CRYST. BS SUB2 WAS STUDIED BY MEASURING THE PRESSURE OF THE SATD. AND UNSATD. VAPOR AT 550-1100DEGREES AND BY ANALYZING THE ELECTRONIC ABSORPTION SPECTRUM. THE EQUIL. CONSTS. (KAPPA SUBE) SUBN WERE CALCD. FOR THE DISSOCN. (BS SUB2) SUBN (GAS) YIELDS NBS SUB2 (GAS) FOR N EQUALS 1-8 BY USING THE MONTE CARLO METHOD FOR 9 TEMPS. AT 50DEGREES INTERVALS IN THE RANGE 550-950DEGREES. THE TEMP. DEPENDENCE OF KAPPA SUBE IS GIVEN FOR N EQUALS 2 AND 4. THE THERMODYNAMIC ANAL. SHOWED THAT THE MAIN COMPONENTS OF THE SATD. VAPOR AT GREATER THAN 550DEGREES ARE BS SUB2, (BS SUB2) SUB2, AND (BS SUB2) SUB4. FACILITY: INST. OSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

GRINBERG, Ye. Ye.

2085 59365  
673

VII-11. THERMAL DECOMPOSITION OF TRIMETHYL GALLIUM IN INERT GAS AND HYDROGEN FLOWS

Article by B. M. Kozenchuk, Ye. Ye. Grinberg, L. N. Horozova, V. F. Potapov, K. I. Kuznetsov, I. I. Slepov, I. I. Protchenko, K. I. Sineza, Polupond, N. I. Kozlov, I. I. Plenk, Pusan, 12-17 June 1972, p. 99

At the present time a prospective method for obtaining films of Al<sub>13</sub>V compounds is the use of organometallic compounds and hydrides. Therefore, the mechanism of thermal decomposition of these compounds in various gas carriers is of interest. In this paper results are presented from a study of the thermal decomposition of trimethyl gallium (TMG) in helium and hydrogen flows.

The method of gas chromatography was used to determine the products of pyrolysis of TMG.

It was found that the basic components of the gaseous decomposition product of Ga(CH<sub>3</sub>)<sub>3</sub> in the helium flow in the temperature range of 400 to 700° C are ethane, ethylene and propylene. When studying the thermal decomposition of TMG in the hydrogen flow in the same temperature range, the presence of only molecular methane was established.

The results of this paper permit a conclusion to be drawn regarding the selection of the TMG gas carrier to obtain Al<sub>13</sub>V epitaxial films.

USSR

UDC 546.185 + 547.412

PRONS, V. N., GRINBLAT, M. P., and KLEBANSKIY, A. L., All Union Scientific Research Institute of Synthetic Rubber Imeni S. V. Lebedev

"Ammonolysis Reaction of Perfluoroalkylchlorophosphoranes"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, p 692

Abstract: Reaction of ammonia with bis(trifluoromethyl)trichlorophosphorane and bis(heptafluoropropyl)trichlorophosphorane in chloroform or methylene chloride at  $-40^{\circ}$  -  $0^{\circ}$ , the reagents being taken in a ratio  $\leq 3:1$ , followed by heating the intermediate products to  $200-250^{\circ}$  yields respective perfluoroalkylphosphazenes.

1/1





USSR

UDC 546.185 + 547.412

PRONS, V. N., GRINBLAT, M. P., KLEBANSKIY, A. L., NIKOLAYEV, G. A.

"Rearrangement of Fluoroalkoxyhalocyclophosphazenes"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, p 2128

Abstract: Heating a mixture of hexakis-(pentafluoropropoxy)-cyclotriposphazene (I) and tris-(pentafluoropropoxy)-trichloro-cyclotriposphazene (II) taken at a 1:1 ratio to 250° for 40 hrs in a sealed tube leads to the formation of 12% tetrakis-(pentafluoropropoxy)-dichlorocyclotriposphazene (III) and a trace of pentakis-(pentafluoropropoxy) monochlorocyclotriposphazene (IV). Increasing the reaction time brings up the ratio of (III) and (IV) to about the level of (I) and (II). A similar disproportionation reaction occurs with hexakis-(heptafluorobutoxy)-cyclotriposphazene and tris-(heptafluorobutoxy)-trichlorocyclotriposphazene.

1/1

USSR

UDC 547.26'118

PRONS, V. N., GRINBLAT, M. P., and KLEBANSKIY, A. L.

"Synthesis and Reactivity of Fluoroalkylchloro- and Fluoroalkylphosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, p 483

Abstract: Reaction of  $\text{PCl}_3$  with tetrafluoropropanol, pentafluoropropanol and heptafluorobutanol gave low yields of bis-(tetrafluoropropyl) chlorophosphite, bis-(pentafluoropropyl) chlorophosphite, b.p.  $67^\circ/35\text{mm}$ ,  $d_4^{20}$  1.5931,  $n_D^{20}$  1.3370, and bis-(heptafluorobutyl) chlorophosphite, b.p.  $35^\circ/2\text{mm}$ ,  $d_4^{20}$  1.6623,  $n_D^{20}$  1.3312 respectively. In later runs the fluoroalcohol was added gradually to  $\text{PCl}_3$  to increase the yield of secondary phosphites. However, even with small portions of the fluoroalcohol added, both the bis- and tris-(fluoroalkyl) phosphites were formed, the later by far in largest amounts.

1/1

USSR

UDC 546.185 + 547.412

PRONS, V. N., GRINBLAT, M. R., and KLEBANSKIY, A. L., All Union  
Scientific Research Institute of Synthetic Rubber imeni S. V. Lebedev

"Synthesis and Polymerization of Methylchlorocyclophosphazenes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71,  
pp 482-483

Abstract: Heating methyltetrachlorophosphorane with ammonium chloride in sym-tetrachloroethane yields methylchlorocyclophosphazenes in 58% yield, provided that ammonium chloride is prepared directly in the reaction vessel. The product consists of a 60:40 mixture of 1,3,5-trimethyl-1,3,5-trichlorocyclotriphosphazene and 1,3,5,7-tetramethyl-1,3,5,7-tetrachlorocyclotetraphosphazene. This mixture, heated to 200-220° for 15-20 hrs in a sealed ampoule, yields a rubber-like methylchloropolyphosphazene.

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USSR

UDC 546.185 + 547.412

PRONS, V. N., GRINBLAT, M. P., KLEBANSKIY, A. L.

"Synthesis of Bis-(perfluoroalkyl)-cyclophosphazenes"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,  
pp 2127-2128

Abstract: Ammonolysis of bis-(heptafluoropropyl)-trichlorophosphorane (I) with a fivefold excess of highly dispersed ammonium chloride in chlorobenzene, prepared freshly in the reaction vessel from gaseous ammonia and HCl, occurs at 125-130° with slight decomposition of (I), yielding a 70-30 mixture of 2,2,4,4,6,6-hexa-(heptafluoropropyl)-cyclotriphosphazene and 2,2,4,4,6,6,8,8-octa-(heptafluoropropyl)-cyclotriphosphazene (II). Vacuum distillation of the above crystalline mixture gives pure (II), m.p. 122.5-123°; its IR spectrum shows bands at: 683, 740, 752, 880, 1120, 1142, 1200-1240, 1335, 1400-1420 cm<sup>-1</sup>.

1/1

1/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--SYNTHESIS AND THERMAL STABILITY OF PHOSPHAZOPHOSPHINES -U-

AUTHOR--(03)-PRONS, V.N., GRINBLAT, M.P., KLEBANSKIY, A.L.

COUNTRY OF INFO--USSR

SOURCE--Zh. Obshch. Khim. 1970, 40(3), 589-94

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, THERMAL STABILITY, POLYMER, ORGANIC  
PHOSPHORUS COMPOUND, AZO COMPOUND, PHOSPHORUS CHLORIDE, FLUORINATED  
ORGANIC COMPOUND, CYCLIC GROUP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1136

STEP NO--UR/0079/70/040/003/0589/0594

CIRC ACCESSION NO--AP0128562

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 20 G (CF SUB3) SUB2 PNH  
SUB2 AND 22 G ET SUB3 N AT NEGATIVE 40DEGREES TO 30.61 G (CF SUB3) SUB2  
PCL SUB3 IN ET SUB2 G UNDER GAVE ON THE FOLLOWING 95PERCENT ET SUB3  
N,HCL AND 62.2PERCENT (CF SUB3) SUB2 PCL, B. 21-1.5DEGREES, WHILE THE  
DISTN. RESIDUE IS SHOWN ON MICROFICHE. FACILITY: VSES. NAUCH.  
ISSLED. INST. SIN. KAUCH. IM. LEBEDEVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 007  
UNCLASSIFIED  
TITLE--REACTIONS OF PERFLUORO ACID HYDRAZIDES. II. REACTION OF PERFLUORO  
ACID HYDRAZIDES WITH CHLORINE -U-  
AUTHOR--(04)--SIDOROVA, L.P., TUMANOVA, A.V., GRINBLAT, M.P., LOPYREV, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--Zh. Org. Khim. 1970, 6(4), 705-6  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CARBOXYLIC ACID CHLORIDE, FLUORIDE, AZIDE  
CENTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/2155  
STEP NO--UR/0366/70/006/004/0705/0706  
CIRC ACCESSION NO--AP0125738  
UNCLASSIFIED



2/2 007  
CIRC ACCESSION NO--AP0125738

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PASSAGE OF DRY CL THROUGH CF  
SUB3 CONHNH SUB2 IN MEND SUB2 GAVE CF SUB3 COCL, HCL, AND N. SIMILARLY,  
CF SUB3 CF SUB2 CONHNH SUB2, CF SUB3 CF SUB2 CF SUB2 CONHNH SUB2, AND H  
SUB2 NNHOC(CF SUB2) SUB3 CONHNH SUB2 REACTED TO GIVE THE CORRESPONDING  
ACID CHLORIDES. FACILITY: LENINGRAD. TEKHNOL. INST.  
TSELLYUL.-BUM. PROM., LENINGRAD, USSR.

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70  
CIRC ACCESSION NO--AA0128860  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SATD. F CONTG RUBBERS ARE  
VULCANIZED BY AMINES AND CONVENTIONALLY USED INGREDIENTS. TO IMPROVE  
THE CHEM. RESISTANCE OF THE VULCANIZATES, COMPS. OF THE FORMULA I,  
WHERE N IS 0-8, OR THEIR COMBINATIONS IN CONCNS. OF 1-10PERCENT BY WT.  
OF THE POLYMER ARE USED AS AMINES.

UNCLASSIFIED

1/1

USSR

UDC 621.315.592:546.28

ANTONYAN, V.G., GRINBLAT, S.L., KAMARALI, V.V., MURAVITSKIY, S.A.

"Some Causes Of Radial Nonuniformity With Respect To Resistivity Of Noncrucible Silicon Monocrystals"

V sb. Tekhnol. materialov elektron. tekhn. (Technology Of Materials For Electronics Technics--Collection Of Works), Krasnoyarsk, 1970, pp 144-147 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B54)

Translation: The uniformity is investigated of the distribution of electrical conductivity in a cross section of crystals grown by the method of noncrucible zone melting. The effects of regimes for the growth of monocrystals on the uniformity are shown, as well as the possibility of reducing the magnitude of the spread of the resistivity from seven to five percent because of their optimum matching. 2 ill. 3 ref. Summary.

1/1

- 78 -

1/2 042 UNCLASSIFIED PROCESSING DATE--02 OCT 70  
TITLE--FLOW OF A POLYMER MELT IN A MOLD DURING INJECTION MOLDING -U-  
AUTHOR--GRINPLAT, V.N.  
COUNTRY OF INFO--USSR  
SOURCE--PLAST. MASSY 1970, (2) 28-31  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--PLASTIC INJECTION MOLDING, CRYSTALLINE POLYMER, AMORPHOUS  
POLYMER, FLUID FLOW, POLYFORMALDEHYDE, POLYETHYLENE, FLOW RATE,  
CALCULATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/0294 STEP NO--UR/0191/70/000/001/0028/0031  
CIRC ACCESSION NO--AP0111488  
UNCLASSIFIED

2/2 042

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111488

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SIMPLIFIED MODEL WAS DEVELOPED FOR THE FLOW OF CRYST. AND AMORPHOUS POLYMER MELTS IN A MOLD DURING INJECTION MOLDING. SEVERAL DIFFERENTIAL EQUATIONS, DESCRIBING THE POLYMER FLOW AND THE ENERGY BALANCE, WERE DERIVED. THE SOLNS. OF THE EQUATIONS WERE TESTED EXPTL. BY MEASURING THE FLOW RATE OF POLYFORMALDEHYDE AND HIGH-D. POLYETHYLENE MELTS AS A FUNCTION OF TIME AT A CONST. PISTON PRESSURE. THE EXPTL. DATA AGREED WITH THE CALCD. RESULTS.

UNCLASSIFIED

UDC 669.15:548

USSR

BELOZERSKIY, G. N., GRINBLAT, Yu. N., and SHAPIRO, A. I., Leningrad State University imeni A. A. Zhdanov

"A Study of the YuNDK24 Alloy by the Nuclear Gamma Resonance Method"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 410-412

Abstract: A study was made by the method of nuclear gamma resonance (NGR) of the condition of Fe atoms of the YuNDK24 alloy in various stages of thermomechanical treatment (TMT) and at various durations of tempering. The NGR spectra of seven specimens were taken on a spectrometer providing uniformly accelerated motion. The types of TMT and the Moessbauer parameters of NGR spectra and the magnetic properties of the investigated specimens are discussed by reference to tabulated data. The NGR spectra of two specimens were found to represent a superposition of two spectra with different Moessbauer parameters. Two tables, three bibliographic references.

1/1

- 112 -

1/2 035 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--EFFECT OF CONTINUOUS NEUTRON IRRADIATION ON THE STRUCTURE AND  
PROPERTIES OF MAGNETIC ALLOYS OF THE YUNDK ,IRON NICKEL ALUMINIUM  
AUTHOR--(05)-GRINBLAT, YU.N., LYASHCHENKO, B.G., ROGOZYANOV, A.YA.,  
SAKATUNOV, YU.S., SHELKOVNIKOVA, G.YE.  
COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 252-255

DATE PUBLISHED----FEB70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--NEUTRON IRRADIATION, PERMANENT MAGNET MATERIAL, MAGNETIC  
PROPERTY, RESISTIVITY, ALLOY STRUCTURE, COBALT IRON ALLOY, IRON NICKEL  
ALLOY, ALUMINUM CONTAINING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1676

STEP NO--UR/0126/70/029/002/0252/0255

CIRC ACCESSION NO--AP0129046

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129046

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF CONTINUOUS NEUTRON IRRADIATION (10 PRIME21 N-CM PRIME2) AT TEMP. UP TO 630DEGREESC ON CAST AND SINTERED ALLOYS OF THE YUNDK TYPE (FE,NI,AL AND FE,NI,AL,CO) USED FOR PERMANENT MAGNETS WAS STUDIED. BECAUSE OF THE RADIATION, SPECIAL METHODS WERE REQUIRED FOR MEASURING THE MAGNETIC PROPERTIES AND ELECTRICAL RESISTANCE AND FOR STUDYING THE MATERIAL IN THE OPTICAL AND ELECTRON MICROSCOPES. NO CHANGES IN THE STRUCTURE OR PROPERTIES ATTRIBUTABLE TO THE IRRADIATION WERE OBSERVED; CHANGES OCCURRING ABOVE 600DEGREESC WERE DUE SOLELY TO THE ORDINARY EFFECTS OF HEAT TREATMENT.

UNCLASSIFIED



Acc. Nr: **AP0038112**

Ref. Code: UR 0326

PRIMARY SOURCE: Fiziologiya Rasteniy, 1970, Vol 17, Nr 1,  
pp 107-111

ONTOGENETIC CHANGES IN FORMATION OF THE ROOT  
SYSTEM OF WINTER WHEAT

A. I. ZADONTSEV, V. I. BONDARENKO, A. L. GRINCHENKO, A. A. SAMOSHKIN

All-Union Scientific Research Institute of Maize, Dnepropetrovsk

Results are briefly described of field and vegetation experiments carried out in 1957—1968 with the aim of studying the formation of the root system and aerial part of winter wheat (Mironovskaya 808 and Odesskaya 3 varieties) sown at various periods and supplied with various amounts of nutrients during growth. Data are presented on linear growth of roots and overground parts, rate of water consumption by the plants from various soil horizons, root abundance of plants, root absorbing surface and also grain productivity of wheat.

REEL/FAME  
**19731163**

02  
60

1/2 005 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--DEEPENING OF THE TILLENING NOOE AND INCREASE OF THE PRODUCTIVITY OF  
WINTER WHEAT TREATED WITH CHLOROCHOLINE CHLORIDE -U-  
AUTHOR-(03)-ZADONTSEV, A.I., PIKUSH, G.R., GRINCHENKO, A.L.

COUNTRY OF INFO--USSR

SOURCE--VESTN. SEL'SKOKHOZ. NAUKI (MOSCOW) 1970, 15(1), 26-32

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--WHEAT, CHLORIDE, PLANT GROWTH REGULATOR, AGRICULTURAL CROP  
YIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1999/0402

STEP NO--UR/9091/70/015/001/0026/0032

CIRC ACCESSION NO--AP0122582

UNCLASSIFIED

2/2 005 UNCLASSIFIED PROCESSING DATE--23OCT70  
CIRC ACCESSION NO--AP0122582  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEEDS OF WINTER WHEAT WERE SOAKED  
2.5-4 HR IN 5-10PERCENT SOLN. OF CCC, DRIED IN THE SHADE, AND SOWN AT 3  
DIFFERENT DATES, EARLY (AUGUST 5), OPTIMAL (SEPT. 5), AND LATE (SEPT.  
25). ON THE SHOOTS FROM TREATED SEED, THE UNDERGROUND INTERNODE BELOW  
THE NARROW BAND, MARKING THE POINT OF DEVELOPMENT OF THE TILLERING NODE,  
WAS CURTAILED IN LENGTH, AND THE EMBRYONIC TILLERING NODE REMAINED AT A  
LOWER DEPTH IN THE SOIL (2-3 CM.) THAN FOR CONTROL PLANTS. THIS  
PROTECTED THE NODE FROM SUDDEN CHANGES OF TEMP., AND ALLOWED IT TO  
BECOME ACCLIMATIZED GRADUALLY TO REDN. OF TEMP. IN THE WINTER. PLANTS  
FROM TREATED SEED HAD THUS A GREATER SURVIVAL RATE IN WINTER, SHOWED  
MORE VIGOROUS GROWTH IN SPRING AND SUMMER, AND GAVE AN INCREASED YIELD  
OF GRAIN. THE INCREASE WAS SMALLER, THE EARLIER THE DATE OF SOWING; 60  
DAYS OF STORAGE OF THE TREATED SEED BEFORE SOWING HAD NO ADVERSE EFFECT.  
FACILITY: VSES. INST. KUKURUZY, ONEPROPETROVSK, USSR.

UNCLASSIFIED

Miscellaneous

USSR

UDC 621.787:669.5

GRINCHENKO, I. G.

Work Hardening of Parts From High-Temperature and Titanium Alloys (Uprochneniye detaley iz zharoprochnykh i titanovykh splavov), Moscow, "Mashinostroyeniye" Press, 1971, 120 p., 68 illustrations, 19 tables, 22 bibliographic references.

Translation Of Annotation:

The monograph discusses the performance of surface-hardened parts, the effects of cold working and machining conditions on the surface layer quality and strength properties of parts, as well as the effect of the technological history on these factors. Included are the specific features of hardening parts from high-temperature and titanium alloys and, among other things, the hardening stability at high temperatures. Outlined are methods and equipment for hardening the intricate surfaces of precision components and both internal and external surfaces of long and large parts. Methods of explosive hardening of parts are considered. The book is intended for engineering and technical personnel of machine-building plants.

Translation of TABLE OF CONTENTS (Abridged):

Introduction

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USSR

GRINCHENKO, I. G., (Uprochneniye detaley iz zharoprochnykh i titanovykh splavov), Moscow, "Mashinostroyeniye" Press, 1971.

Ch. I.	Changes in the Properties of the Surface Layer of Parts From High-Temperature and Titanium Alloys During Cold Working	5
Ch. II.	Effects of Cold Working and Hardening Techniques of High-Temperature and Titanium Alloys on Their Strength	36
Ch. III.	Present-Day Methods of Hardening the Working Surfaces of Intricate-Shape Parts	63
Ch. IV.	Explosive Hardening	117
References		119

2/2

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USSR

UDC 621.787.4:[621.882.6:669.295.5

GRINCHENKO, I. G. Candidate of Technical Sciences, RYKOVSKIY, B. P., Candidate of Technical Sciences

"Increasing the Durability of Bolts Made of Titanium Alloy VT-16 by Rolling the Fillet With a Roller"

Moscow, Vestnik Mashinostroyeniya, No 1, Jan 72, p 43

Abstract: For the effective use of titanium fastenings it is necessary to introduce, into the technological process of their production, the operation of rolling the fillet; this eliminates the harmful influence exerted upon the fatigue resistance of the bolts by the stress concentrator and by preliminary grinding. The process of the rolling of bolt fillets is described. This process increases the longevity of bolts with repeated static loads by a factor of seventeen to twenty, and increases the endurance limit by a factor of two. Two figures; one reference in the form of a footnote.

1/1

USSR

UDC 621.787:620.178.3

UMANSKIY, YA. S., GRINCHENKO, I. G. and SHCHENNIKOVA, A. YE. (Moscow Institute of Steels and Alloys)

"The Dependence of Fatigue Strength on Metal Surface Hardening"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 3, 1970, pp 29-31

Abstract: An investigation was made to select the physical parameters for controlling metal surface hardening. The relationship among fatigue strength, magnitude and depth of hardening, and properties of  $\Delta$  a/a thin crystal structure was studied for this purpose. Tests were conducted on the AD33Ti alloy and 30KhGSA steel. The test procedure is briefly described. The fatigue strength of the samples was determined on Sidorin's apparatus at symmetrical flexure and  $10^7$  cycles. The characteristics of a thin crystal structure (the  $\Delta$  a/a microstress and the magnitude of D blocs) were determined by the method of harmonic analysis of X-ray ( $\beta$ ) lines, while the dislocation density was obtained from  $1/D^2$ . The first-order residual stresses were determined by the  $\sin^2 \psi$  method. The results show that to evaluate the quality of surface hardening of the AD33Ti alloy, it is necessary to use the residual microstresses, the physical widening of  $\beta$  lines measured on the surface, and the depth of the hardened layer. The residual microstresses measured on the surface can be used to control the hardening of 30KhGSA steel. 1 figure, 3 tables, 9 references.

1/1

- 4 -

USSR

SEMENTOV, I. A., and KRIVONOS, I. V.

"Fatigue of Surface-Workhardened AN-4 Alloy at Elevated Temperatures"

Moscow, Vsesoyuznoye i Tsentral'naya Obrabotka Metallov, No. 11, 1985, pp. 62-65

Abstract: Surface work hardening of AN-4 alloy increases its strength at room and elevated temperatures (up to 200° C). As a result of the work hardening of the surface layer during fatigue bending tests with forced displacement of the specimens, the fatigue limit of specimens increased 1.5-2.0 times. The fatigue limit of the work-hardened layer of AN-4 alloy is 1.5-2.0 times higher than the fatigue limit of the base metal at a temperature of 200° C. The use of vibration treatment at a higher speed in the finishing operation for parts made of heat-resistant aluminum alloys, which undergo cyclical loading at elevated temperatures, increases the fatigue strength of the parts and reduces the requirements for mechanical treatment.

1/1



USSR

UDC: 8.74

GRINCHENKO, N. K., BOGDANOV, V. S.

"Development of a Procedure for Access to Several Digits of a Variable in ODRA-ALGOL Language"

Tr. Ryazan. radiotekhn. in-ta (Works of Ryazan Radio Engineering Institute), 1972, vyp. 30, pp 189-192 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V625 by V. Mikheyev)

Translation: The use of digital computers on various stages of the design of complex electronic circuits has led to the development of a number of topological methods based on using the theory of graphs. The information on the graph is fed to the computer in the form of incidence matrices, contiguity matrices, or matrices which describe the distribution of values of functions given on the set of vertices or arcs of a graph. For complicated electronic circuits the number of matrix elements may reach several thousand. At the same time, it is not efficient to use an entire memory cell for storing one matrix element. In this connection the problem of data compression arises. This problem can be solved if the appropriate algorithms are recorded in the command system

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USSR

GRINCHENKO, N. K., BOGDANOV, V. S., Tr. Ryazan. radiotekhn. in-ta, 1972, vyp. 30, pp 189-192

of a given computer, which involves certain difficulties due to the complexity of the algorithms to be realized. At the same time, ALGOL-60 language, which is convenient for realizing design algorithms, does not provide for access to several digits of a variable. The authors consider development of a procedure for access to several digits of a variable in ODRA-ALGOL, which is a specific representation of ALGOL-60 for the ODRA-1204 digital computer. The synthesis of procedures for access to several digits of a variable presupposes that a method has been developed for addressing groups of digits of a variable and that the relation has been established between the number recorded in the corresponding digits of the variable, and the value of the variable itself treated as a number.

2/2

11

USSR

UDC: 534.26

VOVK, I. V., GRINCHENKO, V. T., MAYATSKIY, V. I., Kiev

"Acoustic Field of an Infinite Circular Cylindrical Transducer Partially Covered by a Layer of Acoustically Soft Material"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 3, pp 365-369

Abstract: A strict solution is given for the problem of sound emission by an infinite circular cylindrical transducer on which a part of the surface bounded by two generatrices is covered by a layer of acoustically soft material of arbitrary thickness, assuming a predetermined arbitrary distribution of the normal component of the oscillatory velocity over the uncovered region of the surface. The solution is based on use of the method of eigenfunctions. The final infinite system of linear algebraic equations is studied for quasiregularity. An analysis of the radiation pattern of a specific transducer using the proposed method agrees well with experimental results.

1/1

USSR

UDC 539.3:534.1

GRINCHENKO, V. T., ULITKO, A. F., (Kiev), Institute of Mechanics, Ukraina SSR

"A Dynamic Problem in Elasticity Theory for a Rectangular Prism"

Kiev, Prikladanay Mekhanika, Vol 7, No 9, Sep 71, pp 50-56

Abstract: The article deals with a two-dimensional problem of elasticity theory concerning the oscillations of a rectangular prism or of a rectangular plate. The aim of the work is to demonstrate, on the basis of the most simple examples, a sufficiently general method of solving dynamic boundary-value problems in the theory of elasticity of bodies of finite dimensions. On the basis of a specific example are shown possible ways of obtaining the quantitative characteristics and the dynamic tension of an elastic body. Intervals are obtained for the first natural frequencies of a square prism. One table, seven references.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--SPECIFIC CHARACTERISTICS OF THE STRESSED STATE OF A RIGIDLY CLAMPED  
CIRCULAR PLATE -U-  
AUTHOR--GRINCHENKO, V.T., ULITKO, A.T.  
COUNTRY OF INFO--USSR  
SOURCE--AKADEMIJA NAUK UKRAINS'KOI RSR, DOPOVIDI, SERIJA A, FIZIKO,  
TEKHNICHNI I MATEMATICHNI NAUKI, VOL. 32, FEB. 1970, P. 162-164  
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--STRESS DISTRIBUTION, CIRCULAR PLATE, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1990/0290

STEP NO--UR/0441/70/032/000/0162/0164

CIRC ACCESSION NO--AT0108588

ZZZZZZZZZZZZ

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AT0108588

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE SINGULARITIES OF EXPRESSIONS DESCRIBING THE STRESSED STATE OF A RIGIDLY CLAMPED CIRCULAR PLATE. THE IDENTITY OF THE TRANSCENDENTAL EQUATIONS OF THE PLANE STRESSED STATE PROBLEM INVOLVED TO THOSE OF THE CORRESPONDING AXISYMMETRICAL PROBLEM IS DEMONSTRATED. IT IS ALSO SHOWN THAT THE SINGULARITIES OF THE STRESS TENSOR COMPONENTS OF THESE PROBLEMS CONVERGE.

????????????

UNCLASSIFIED

USSR

UDC 612.821.6+612.822.3

SHVYRKOV, V. B., and GRINCHENKO, YU. Y., Laboratory of the General Physiology of the Central Nervous System, Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Electrophysiological Study of the Acceptor of Action Results in Instrumental Behavior"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, Vol 22, No 4, Jul/Aug 72, pp 792-800

Abstract: A conditioned reflex was developed in rabbits by flashing a light and then placing a cabbage leaf in the feed trough. After the motor response was firmly established, a modification was introduced: a ring, which by means of a string was attached to three switches, would be placed in the cage, and the animals had to pull the ring in order to make the light flash, whereupon a cabbage leaf would be placed in the trough. Because the connection between the light bulb and one of the three switches was altered at random, the animals had to pull the ring either 3 cm, or 8 cm, or 14 cm. After a few trials and errors, the rabbits learned to pull the ring as far as necessary. The moment the light flashed, they would stop pulling and would run to the trough and wait there for the cabbage leaf. The EEG records, the light flash  
1/2

USSR

SHVYRKOV, V. B. and GRINCHENKO, YU. V., Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, Vol 22, No 4, Jul/Aug 72, pp 792-800

was preceded by a slow negative oscillation, and the evoked potential to the light flash contained an additional negative component. It is concluded that the light flash acquired the significance of a desired intermediate result of motor activity and that the negative component in the evoked potential represented collation of the current impression with its prognosticated model in an acceptor center.

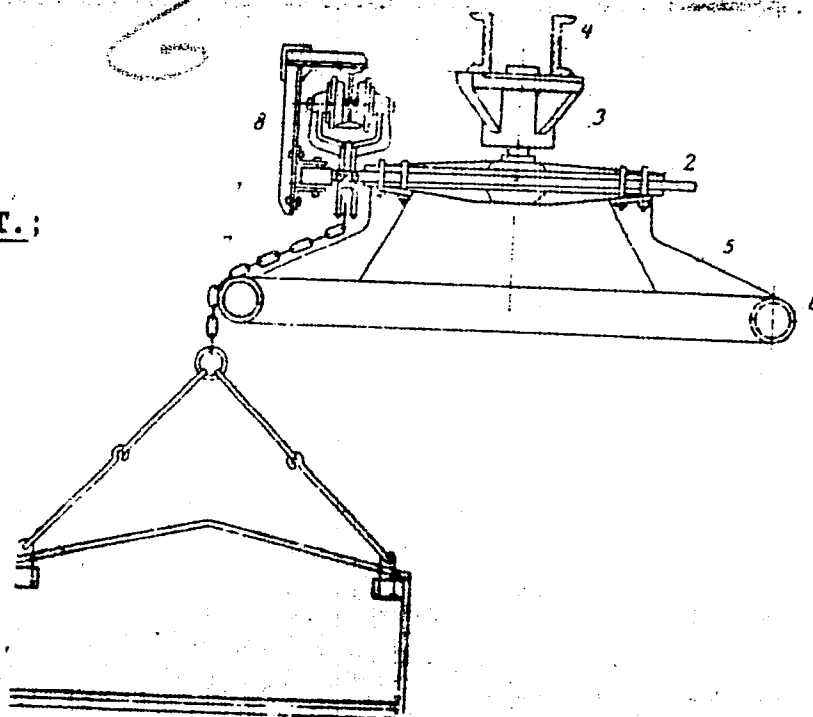
2/2

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AA0052385

Shub, G. Kh.;  
Grinchishin, D. T.;  
Kolodnik, V. V.



19820981

AA0052385

Soviet Inventions Illustrated, Section III Mechanical and General,  
Derwent, 2-70

UR 0482

243499 OVERHEAD CONVEYOR has a horizontal rotating mechanism comprising a rotating sprocket and a roller set, and to the lower plane of the rotating sprocket (2) a rotary ring (6) is attached by means of brackets (5), is arranged concentrically to the axis of the rotating sprocket and has an outer diameter larger than the diameter of the circumference of the rotating sprocket. This construction increases the efficiency of the conveyor by decreasing the pitch of the large suspensions or loads (9) by ensuring their free passage at the rotating sections of the track of the conveyor.

18.3.68. as 1225909/27-11, G. Kh. SHUB, et al.  
(22.9.69) Bul. 16/5.5.69. Class 81e, Int. Cl. B61g

19820980

USSR

UDC 669.15.013.44:621.039.5

VOTINOV, S. N., GRINCHUK, P. P., OSTROVSKIY, Z. YE., PROKHOROV, V. I.

"Effect of Irradiation on the Structure of Some Dispersion Hardening Steels"

Radiatsion. fiz. tverd. tela i reaktornove materialoved. -- V sb. (Radiation Solid State Physics and Reactor Material Science -- collection of works), Moscow, Atomizdat Press, 1970, pp 73-82 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 41845)

Translation: An electron microscope study was made of the effect of neutron irradiation on the structure of two dispersion hardening stainless steels of the austenitic class -- OKh16Ni15M3B, OKh16Ni15M3BR and OKh16Ni15, which is the Cr-Ni base of the first two. The irradiation was performed in the SM-2 reactor at 630-700° with a fast neutron dosage of  $2 \cdot 10^{20} \text{ cm}^{-2}$ . OKh16Ni15M3B steel was also irradiated at 70° in water with a dosage of  $4.3 \cdot 10^{21} \text{ cm}^{-2}$ . There are 6 illustrations, 1 table, and a 16-entry bibliography.

1/1

- 69 -

Transformation and Structure

USSR

UDC 621.039.53

VOTINOV, S. N., GRINCHUK, P. P., OSTROVSKIY, Z. YE., and PROKHOROV, V. I.

"Effect of Irradiation on the Structure of Certain Dispersion-Hardening Steels"

Radiatsion. Fiz. Tverd. Tela i Reaktornoye Materialoved (Radiation Solid State Physics and Reactor Materials Science — collection of works), Moscow, Atomizdat Press, 1970, pp 73-82 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 4, 1971, Abstract No 4.50.138)

Translation: Investigations performed with 2-component alloys of certain steels have shown that irradiation accelerates the decomposition of solid solutions with segregation of the excess component or separation of an inter-metallic phase. Irradiation of alloys also results in structural changes noted in non-irradiated specimens only at temperatures higher than the irradiation temperature. 6 figures; 16 biblio. refs.

1/1

USSR

UDC 612.822.3.087

GRINDEL<sup>1</sup>, O. M., GERSHMAN, S. G., BOLDYREVA, G. N., VAKAR, Ye. N.,  
MALINA, Z. A., DOBRONRAVOVA, I. S. and GALKINA, N. S., Institute of Neuro-  
surgery imeni N. N. Burdenko, USSR Academy of Medical Sciences, Institute of  
Higher Nervous Activity and Neurophysiology and Acoustics Institute, USSR  
Academy of Sciences, Moscow

"Intercentral Relations in the Human Cerebral Cortex According to Data From  
Coherence and EEG Phasic Spectra"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 23,  
Vyp 4, Jul/Aug 73, pp 771-781

Abstract: The EEG of the occipital, parietal, central, frontal and temporal  
cortical areas were studied in 36 healthy subjects. The energetic and  
reciprocal spectra were produced with a computer and used to determine the  
expression of each rhythm. The degree of their interaction was calculated  
by analyzing the coherence and phasic spectra. Using this method statistical  
and temporal correlations may be found independent of energetic character-  
istics. A complex structure of relationships between rhythms was found,  
with differing degrees of connection and temporal relations at discrete  
1/2

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USSR

GRINDEL', O. M., et al., Zhurnal Vysshey Nervnoy Deyatel'nosti imeni  
I. P. Pavlov, Vol 23, Vyp 4, Jul/Aug 73, pp 771-781

frequencies of even one physiological range of rhythms. The values of coherence and phasic shifts of symmetrical points were quite similar in subjects with or without alpha predominance. Different forms of coherence of the central non-specific cortical zone with the anterior and posterior regions were seen within one hemisphere. Under the influence of afferent stimuli the intercentral relations were found to change in various ways, depending in part on the type of stimulus.

2/2

USSR

VITKINA, B. S., RUSSINA, A. Ye., BOBYLEVA, T. K., GRINEBERG, I. R., SOKOLOVA, N. N., DREYZIN, R. S., and SLEPUSHKIN, A. N., Smolenskaya Oblast Sanitary Epidemiological Station, and Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences

"Etiology and Epidemiology of the 1969 Influenza Outbreak in Smolensk"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, p 494

Translation: The paper presents results of a study of the 1969 influenza outbreak in Smolensk, where almost one-half of the inhabitants had received live influenza vaccines during the preceding five autumn and winter seasons. The disease developed more gradually than during the two previous epidemics (1965 and 1967). Influenza virus was isolated from 127 out of 355 patients. A study of the antigenic structure of 20 strains revealed that all strains were neutralized by 1/68 Hong Kong serum either completely or to one-half of the homologous titer. No essential differences were found between strains obtained from vaccinated and nonvaccinated individuals. All strains were highly sensitive to the inhibitors present in normal guinea pig or horse serum. Serological shifts in the patients coincided with the epidemic influenza curve. The frequency of influenza diagnosed among 235 clinic patients was compared with that of 304

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USSR

VITKINA, B. S., et al, Voprosy Virusologii, No 4, Jul/Aug 71, p. 494

hospitalized patients. Serological confirmation of the diagnosis was 8% greater among the hospitalized group. However, at the end of the epidemic, when morbid-ity returned to almost normal level, influenza was twice as frequent in clinic than in hospitalized patients. Comparison of the frequency of influenza and of other acute respiratory diseases recorded during the interepidemic year of 1968 and during the epidemic in 1969 revealed that the frequency of parainfluenza and of adenoviral infections was approximately the same during both periods.

2/2

- 33 -



USSR

UDC 616.988.75-084.47 "1969"

BOBYLEVA, T. K., SLEPUSHKIN, A. N., RUSSINA, A. Ye., VITKINA, E. S., GRINEBERG, I. R., TARASOV, A. A., LIVERGARD, M. I., and ZHDANOV, V. H., Institute of Virology imeni Ivanovskiy, Academy of Sciences USSR, and Smolenskaya Oblast Sanitary Epidemiological Station

"Evaluation of the Efficacy of Mass Vaccinations Against Influenza" Report III

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii No 9, 1971, pp 18-23

Abstract: Double vaccination of approximately 50% of the population of the city of Smolensk with live influenza vaccine in 1968 proved to be effective in controlling the disease even during the 1969 epidemic caused by a new antigenic variant of type A influenza virus. Almost half as many contracted the disease as in the nearby cities of Vitebsk and Kaluga, where the population was not vaccinated -- 28.8, 54.3 and 48.7%, respectively. The difference between the adult sick rates was even greater -- 17.9, 38.1, and 41.2%, respectively. The side effects of the vaccine were minimal. The results of a similar mass vaccination program in Yartsevo were poor mainly because vaccine from the same strain had been used for three successive years and most of the people had become immune to it. Hence the vaccine strains should be changed periodically (once every 2 or 3 years).

1/1

USSR

UDC: 51

GRINENKO, B. A.

"Determination of the Characteristics of a Set of Technical Facilities for an Automatic Control System"

V sb. Vopr. tekhn. i inform. obespecheniya ASU (Problems of Hardware and Software for Automatic Control Systems--collection of works), Novosibirsk, 1971, pp 17-26 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V454)

[No abstract]

1/1

- 32 -

USSR

UDC: 51

BURNYSHEVA, A. N., ~~GRINENKO, B. A.~~, ZALOSNYKH, N. N.

"Optimizing the Hardware of an Automatic Control System by the Method of Statistical Modeling"

V sb. Vopr. tekhn. i inform. obespecheniya ASU (Problems of Hardware and Software for Automatic Control Systems--collection of works), Novosibirsk, 1971, pp 38-47 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V466)

[No abstract]

1/1

- 33 -

USSR

UDC 547.665

GRINENKO, G. S., POPOVA, YE. V., MAKSIMOV, V. I., and ALEKSEYEVA, L. M.  
All-Union Chemical-Pharmaceutical Scientific Research Institute

"Reactions of Metal Derivatives of Compounds Possessing a Labile Hydrogen Atom With  $\alpha$ -Haloketones. XVIII. Reaction of Halodesoxybenzoines With Na acetoacetates"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 6, No 4, Apr 70,  
pp 736-739

Abstract: Reaction of  $\alpha$ -chlorodesoxybenzoin and  $\alpha$ -bromo-p-methyl-desoxybenzoin with sodium acetoacetate gave corresponding ethyl esters of  $\alpha$ -acetyl- $\beta$ -benzoyl- and  $\alpha$ -acetyl- $\beta$ -toluyldihydrocinnamic acid, m.p. 73-75° and 110-111° respectively. Both compounds are almost completely in the ketonic form. Refluxing these esters for 9 hrs with 20% sulfuric acid cyclizes them, yielding 2-methyl-3-carboethoxy-4,5-diphenylfurane, m.p. 67-68°C and 4-phenyl-5-tolylfurane, m.p. 81-83°. These compounds could be converted to free acids by alkaline hydrolysis yielding 2-methyl-4,5-diphenyl-3-furanecarboxylic acid,

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USSR

GRINENKO, G. S., et al., Zhurnal Organicheskoy Khimii, Vol 6, No 4,  
Apr 70, pp 736-739

m.p. 211-213° and 2-methyl-4-phenyl-5-tolyl-3-furanecarboxylic acid,  
m.p. 193-195°. The structures of all of the above compounds were  
supported by IR and PMR spectra. Cyclization occurs very easily;  
evidently after the esters are protonated at the carbonyl oxygen  
atom, the cyclization occurs analogously to cyanosubstituted compounds.

2/2

- 98 -

1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SYNTHESIS OF 19 NORSTEROIDS. IV. SYNTHESIS OF PLUS OR  
MINUS, 18, ETHYL, DE, A, GON, 9, 10, ENE, 5, 17, DIONE -U-  
AUTHOR--(03)--FEDOROVA, O.I., GRINENKO, G.S., MAKSIMOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 690-3

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STEROL, ORGANIC SYNTHESIS, KETONE, POLYNUCLEAR HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0930

STEP NO--UR/0079/70/040/003/0690/0693

CIRC ACCESSION NO--AP0124591

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE---30OCT70

CIRC ACCESSION NO--AP0124591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 2,ETHYL,1,3,CYCLOPENTANEDIONE AND  
ACCH:CH SUB2 IN MEQH,DOH REFLUXED 5 HR GAVE  
2,ETHYL,2,OXOBUTYLCYCLOPENTANE,1,3,DIONE, 8 SUBO TIMES 5 126-30DEGREES,  
WHICH WITH P,MEC SUB6 H SUB4 SO SUB3 H IN REFLUXING C SUB6 H SUB6 4 HR  
WITH REMOVAL OF H SUB2 O GAVE 8,ETHYL,5,6,7,8,TETRAHYDROINDAN,1,5,DIONE  
(I), M. 87-8.5DEGREES, WHICH WITH PYRROLIDINE IN MEQH UNDER N IN 45 MIN  
GAVE 5,PYRROLIDYL,8,ETHYL,2,6,7,8,TETRAHYDRO,1,INDANONE (II), DECOMP.  
57-8DEGREES. I IN MEQH HEATED 0.5 HR AT 70DEGREES WITH ME SUB2 ETCOK,  
COOLED, TREATED WITH 1,3,DICHLORO,2,BUTENE, HEATED 1 HR, AND TREATED  
WITH H SUB2 O GAVE 60PERCENT  
8,ETHYL,4,(3,CHLORO,2,BUTENYL),5,6,7,8,TETRAHYDROINDAN,1,5,DIONE, AN  
OIL, PURIFIED ON SILICA GEL; SIMILAR REACTION WITH II GAVE A 75PERCENT  
YIELD. THE CRUDE ALKYLATE IN ACOH WAS TREATED AT NEGATIVE30DEGREES WITH  
CONCD. H SUB2 SO SUB4 AND KEPT 20 MIN, FINALLY AT ROOM TEMP., TO YIELD  
OILY 8,ETHYL,4,(3,OXOBUTYL),5,6,7,8TETRAHYDROINDAN,1,5, DIONE, WHICH WAS  
HYDROGENATED OVER PD,C IN MEQH 12 HR TO SOME  
8,ETHYL,4,(3,OXOBUTYL)HYDROINDAN,1,5,DIONE AND III, SEPD.  
CHROMATOGRAPHICALLY. THE CRUDE HYDROGENATION PRODUCT HEATED WITH P,MEC  
SUB6 H SUB4 SO SUB3 H IN ACOH 2 HR GAVE SIMILAR TO 30PERCENT IV, M.  
113-14DEGREES: HYDROGENATION OF  
8,METHYL,4,(3,OXOBUTYL),5,6,7,8,TETRAHYDROINDAN,1,5,DIONE AS ABOVE GAVE  
A 3:7 MIXT. OF 9ALPHA, AND 9BETA ISOMERS OF HEXADVDRO DERIV.  
FACILITY: VSES. NAUCH. ISSLED. KHIM. FARM. INST. IM. ORDZHONIKIDZE,  
MOSCON, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--3006170  
TITLE--CATALYTIC REDUCTION OF 8,METHYL,5,6,7,8,TETRAHYDRO,  
1,5,INDANDIEN,4,YLACETIC ACID AND ITS DERIVATIVES -U-  
AUTHOR-(04)-GRINENKO, G.S., POPOVA, YE.V., MAKSIMOV, V.I., ALEKSEYEVA,  
L.M.  
COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 732-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL SYNTHESIS, STEROID, ACETIC ACID, CHEMICAL REDUCTION,  
AROMATIC KETONE, HYDROGENATION, ISOMER, CATALYST, PALLADIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/0459

STEP NO--UR/0366/70/006/004/0732/0736

CIRC ACCESSION NO--AP0128029

UNCLASSIFIED



2/2 010 UNCLASSIFIED PROCESSING DATE--30UCT70  
CIRC ACCESSION NO--AP0128029  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDN. OF  
8,METHYL,5,6,7,8,TETRAHYDRO,1,5,INDANDION,4,YLACETIC ACID (I) IN MECH  
OVER PD-CACO SUB3 CATALYST GAVE ISOMERIC MIXTS. CONTG. 1:1 MIST. OF  
ANTI,CIS,8,METHYLHEXAHYDRO,1,5,INDANDION,4,YALACETIC ACID (II) AND ITS  
SYN,CIS,ANALOG (IIA). WHEN THE REDN. WAS CARRIED OUT IN ACCH CONTG.  
PD,BASO SUB4 BESIDES II AND IIA ALSO ABOUT THE SAME AMT. OF  
ANTI,TRANS,II ISOMER IIB) WAS FORMED. THE REDN. OF ET I ESTER WITH NABH  
SUB4 GAVE 1,HYDROXY DERIV. (III) OF I. THE HYDROGENATION OF III IN  
MECH CONTG. PD,C CATALYST GAVE 1:1:2.5 MIST. OF 1,HYDROXY ANALOG OF IIB,  
1,HYDROXY ANALOG OF II, AND 1,HYDROXY ANALOG OF IIA. THE OXIDN. OF  
1,HYDROXY ANALOG OF IIB GAVE IIB. THE SYNTHESIS OF ANTI,TRANS,BICYCLIC  
SYSTEMS (SUCH AS IIB) IS OF INTEREST IN THE TOTAL SYNTHESIS OF STEROIDS.  
FACILITY: VSES. NAUCH.,ISSLED. KHIM.-FARM INST. IM.  
ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

1/2 017

UNCLASSIFIED  
TITLE--MODERN DRUGS OF STEROID STRUCTURE -U-

PROCESSING DATE--27NOV70

AUTHOR-(04)-GRINENKO, G.S., SHNER, V.F., MENSHOVA, N.I., SUVOROV, N.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(2), 175-84

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CORTICOSTEROID, DRUG TREATMENT, MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3009/0122

STEP NO--UR/0063/70/015/002/0175/0184

CIRC ACCESSION NO--AP0138987

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138987

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW COVERING MODIFIED  
CORTICOSTEROIDS, GESTAGENS, ANABOLIC PRODUCTS, AND THEIR RELATION TO  
MODERN MEDICAL PRACTICE.

UNCLASSIFIED

Acc. Nr.

AP0036349

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

UR 0007

69301c Isotopic composition of sulfur in sulfides from carbonatites. Grinenko, L. N.; Kononova, V. A.; Grinenko, V. A. (Moscow State Univ., Moscow, USSR). *Geokhimiya* 1970, (1), 66-75 (Russ). The isotopic compn. of S was detd. of sulfides from carbonatites including the formation of ultrabasic and alkaline rock massifs and from carbonatite-like rocks attending nepheline syenite massifs. The isotopic S compn. of sulfides from 92 rock samples of 8 studied massifs varies on the whole within 10‰, approaching meteoritic sulfur (from  $\delta S^{34} = -6.4\%$  to  $\delta S^{34} = +3.06\%$ ). Sep. alk. provinces have a narrower variation range and are somewhat different. A tendency to isotopic compn. change towards enrichment of the final stages of the carbonatite process in  $^{34}\text{S}$  is noted.

BLJR

REEL/FRAME  
19721187

Acc. Nr.

AP0036349

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

UR 0007

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69301c Isotopic composition of sulfur in sulfides from carbonatites. Grinenko, L. N.; Kononova, V. A.; Grinenko, V. A. (Moscow State Univ., Moscow, USSR). *Geokhimiya* 1970, (1), 66-75 (Russ). The isotopic compn. of S was detd. of sulfides from carbonatites including the formation of ultrabasic and alkaline rock massifs and from carbonatite-like rocks attending nepheline syenite massifs. The isotopic S compn. of sulfides from 92 rock samples of 8 studied massifs varies on the whole within 10%, approaching meteoritic sulfur (from  $\delta S^{34} = -6.4\%$  to  $\delta S^{34} = +3.06\%$ ). Sep. alk. provinces have a narrower variation range and are somewhat different. A tendency to isotopic compn. change towards enrichment of the final stages of the carbonatite process in  $^{34}S$  is noted. BLJR

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REEL/FRAME  
19721187

USSR

UDC 621.791.763.1.03

RYBAKOV, V. V., LUKIN, V. I., GRINETS, V. D., L'vov Polytechnic Institute

"Utilization of Infrared Emission for Automation Regulation of the Contact Spot Welding Process"

Kiev, Avtomaticheskaya Svarka, No 7, 1971, pp 47-48

Abstract: In this report given at the All-Union Conference on Automatic Control of Welding Processes, Kiev, 13-14 October 1970, six types of AKTS automatic devices for controlling the spot welding process by infrared radiation are described. The time of passage of the welding current was taken as the regulated variable, and the monitored variable is the intensity of the infrared radiation from the surface of the part. Each of the devices has one or two photoelectric heads and a measuring unit. Data are presented from production testing of the AKTS-6 device when welding one part with  $\delta = 2.5$  mm to another part with  $\delta = 7.5$  mm at three points with a spacing of 17 mm. Comparative data are presented for plant conditions and with deviations of the basic parameters: lowering the network voltage by 16%, lowering the welding current by 15% and increasing it by 20%, and lowering the electrode compression force by 20% and increasing it by 25%. The operating stability of the AKTS-6 devices was checked by welding 975 parts which were checked for tearing apart. The number of test pieces rupturing was 0.4%.

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UDC 621.337.322.3

GRINENKO, V. P., and KHODAKOV, V. YE.

"Some Results of a Study of Gas Discharge, Digital Indicators"

V sb. Elementy i ustroystva vychisl. mashin (Elements and Apparatus of Computing Machinery--collection of works), Kiev, 1972, pp 99 - 109 (from RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 73, abstract No 11 A390)

Translation: This article reports the results of a study of the electronic characteristics of types IN-1, IN-2, IN-14A digital indicators. Volt-ampere and probe characteristics are considered. It is noted that volt-ampere characteristics of each gas discharge gap of one lamp differ from one to another, which fact is explained by the differing area and shape of the symbols, as well as the differing distances to the anode.

A family of volt-ampere characteristics is given for several types of indicators, as well as typical probe characteristics in studying probe currents of cathodes next to "hot ones" and cathodes separated by one gas discharge gap. Conclusions necessary for the development of output devices are drawn. Seven illustrations, one bibliographic citation.

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Abstract by O.M.

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UDC 547.752.753.755.07:542.953

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"The Synthesis and Aminomethylation of 6-Hydroxyindoles"

Riga, Akademiya Nauk Latviiskoy SSR, Himiya Geterotsiklicheskikh Soedinenii,  
No 10, Oct 73, pp 1354-1356

Abstract: It was found that, while reaction of p-benzoquinone with  $\beta$ -aminocrotonic ester or N-methyl- $\beta$ -aminocrotonic ester at 0°C in acetic acid produced 5-hydroxyindoles, the reaction of p-benzoquinone with N-aryl- $\beta$ -aminocrotonic ester under the same conditions produced 6-hydroxyindoles. Thus, the substituent on nitrogen determines whether the ester reacts at the double bond or the carbonyl group of p-benzoquinone. Reacting the 6-hydroxyindoles with bisdimethylaminomethane produced 6-hydroxy-7-dimethylaminomethylindoles. Bromination and nitration of 6-methoxyindoles and 6-acetoxyindoles led to substitution at position number 5, which is explained by the fact that bromination and nitration take place in acid solution, and aminomethylation in basic. Structure determination was by NMR spectroscopy.

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UDC 615.281.8:547.728.2

GRINEV, A. N., ZOTOVA, S. A., BOGDANOVA, N. S., NIKOLAYEVA, I. S. and  
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"The Synthesis and Investigation of the Antiviral Properties of Dibenzofuran Derivatives"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 12, Dec 73, pp 19-21

Abstract: Seventeen dibenzofuran derivatives were synthesized from 2-oxy-6,7,8,9-tetrahydrodibenzofuran or 2-oxy-dibenzofuran, by bromination, substitution of nitro groups for bromine, aminomethylation and formation of alkylamine ester hydrochlorides. Five of the hydrochlorides were found to have virocidal activity, with one ten times more effective than the others. No therapeutic effect was established.

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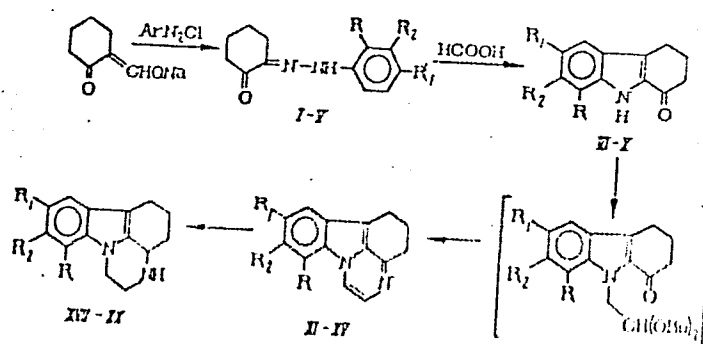
UDC 615.31:[547.861.3+547.751].01].1

SHVEDOV, V. I., ALTUKHOVA, L. B., ANDREYEVA, N. I., MASHKOVSKIY, M. D., and  
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"Pyrazino- and Piperazino[1,2-a]indole Derivatives"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 10, Oct 72, pp 14-17

Abstract: The authors synthesized some new derivatives of pyrazino[1,2-a]indole according to the scheme:



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SHVEDOV, V. I., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 10, Oct 72, pp 14-17

and analogously from 2,3-dihydro-4-keto-8-methylthiopyrano [3,2-b] indole obtained 2,3-dihydro-10-methylpyrazino 1,2-a thiopyrano [3,2-b] indole, isolated as the hydrochloride. The reduction of XII, XIII, XV with sodium in boiling ethanol gives derivatives of piperazino [1,2-a] indole. It was also found that piperazino [1,2-a] indoles can be obtained by the reduction cyclization of N-acetamide derivatives of 1-keto-1,2,3,4-tetrahydrocarbazole with sodium in boiling ethanol.

Pharmacological investigations showed that derivatives of 1,10-trimethylene-piperazino [1,2-a] indole possess properties characteristic of substances with antidepressive activity (imizin etc.) and compounds with a neuroleptic effect (aminazin etc.). An affinity with antidepressants of the imipramine type is most characteristic of the studied derivatives. The corresponding derivatives of pyrazino [1,2-a] indole have a lower activity than those of piperazino [1,2-a] indole. The studied compounds are of comparatively low toxicity.

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UDC 547.728.1'756:542.944.1

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"2-Bromomethyl Derivatives of Benzofuran and Indole and Their Reactions With Some Nucleophilic Reagents"

Riga, Khimiya Geterotsiklicheskikh Soyedinenii, No 3, Mar 73, pp 308-311

Abstract: Bromination of 2-methyl-3-carbethoxy-5-methoxybenzofuran with N-bromosuccinimide in presence of benzoyl peroxide and light yielded 2-bromomethyl-3-carbethoxy-5-methoxybenzofuran, m.p. 80-81°. Under analogous conditions, 1,2-dimethyl-3-carbethoxy-5-methoxyindole yielded only 1,2-dimethyl-3-carbethoxy-5-methoxy-6-bromoindole, m.p. 164-165°, which upon further reaction with N-bromosuccinimide gave 1-methyl-2-bromomethyl-3-carbethoxy-5-methoxy-6-bromoindole, m.p. 141-142°. The bromomethylated products react easily with mercaptans, thiophenols and secondary amines yielding 2-alkyl(aryl)thiomethyl and 2-dialkylaminomethyl derivatives of benzofuran and indole.

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